

FIG. 1

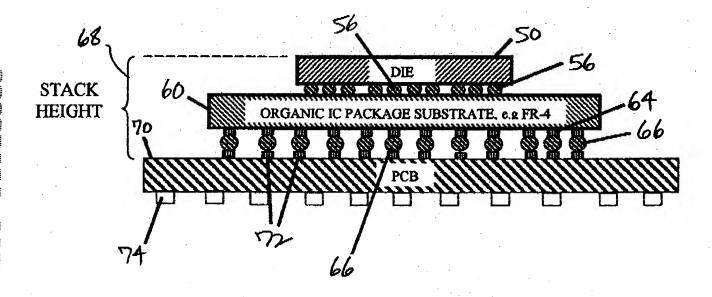


FIG. 2 (PRIOR ART)

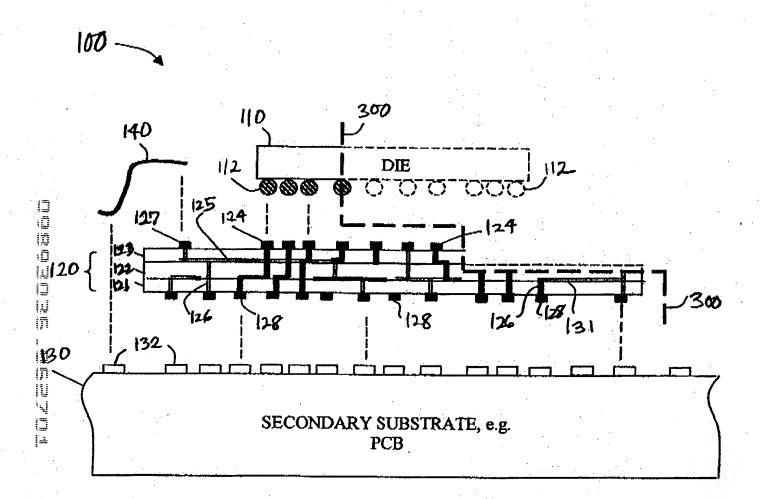
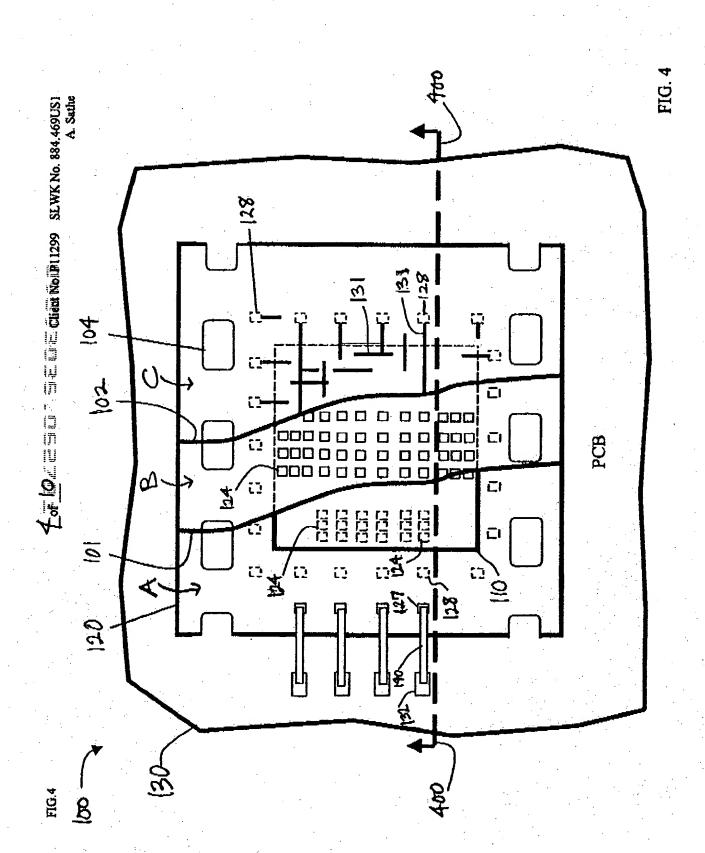


FIG. 3



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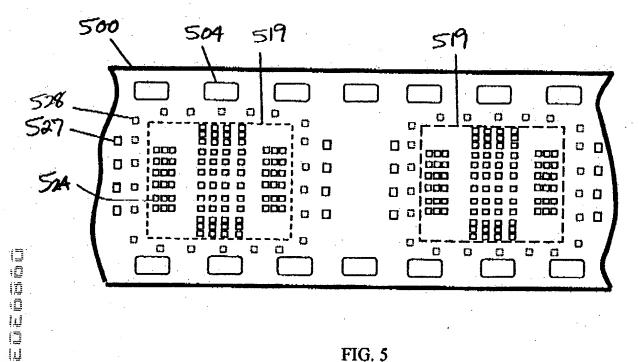


FIG. 5

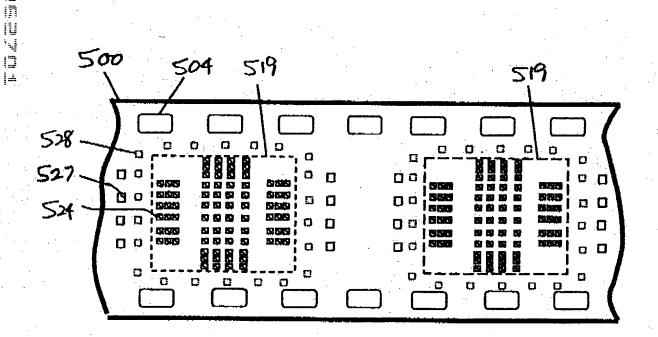


FIG. 6

FIGS.5to10

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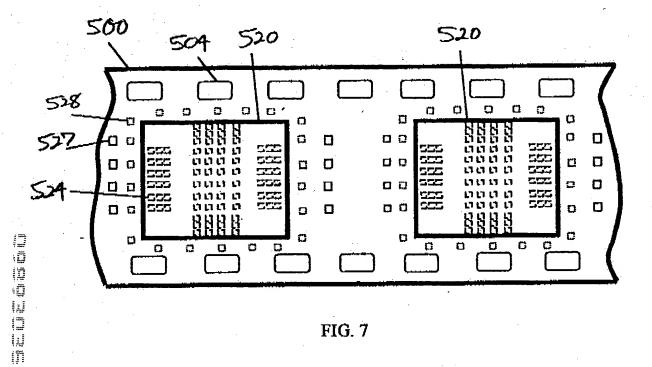


FIG. 7

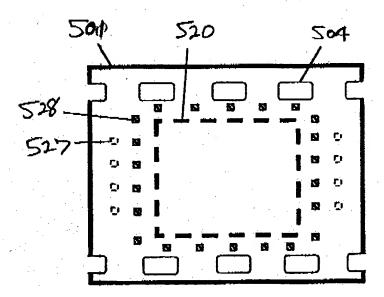


FIG. 8

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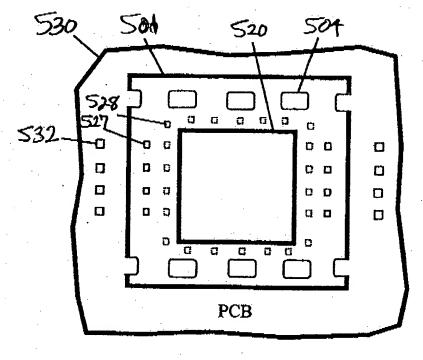


FIG. 9

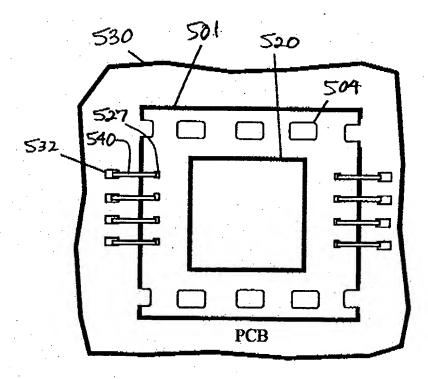
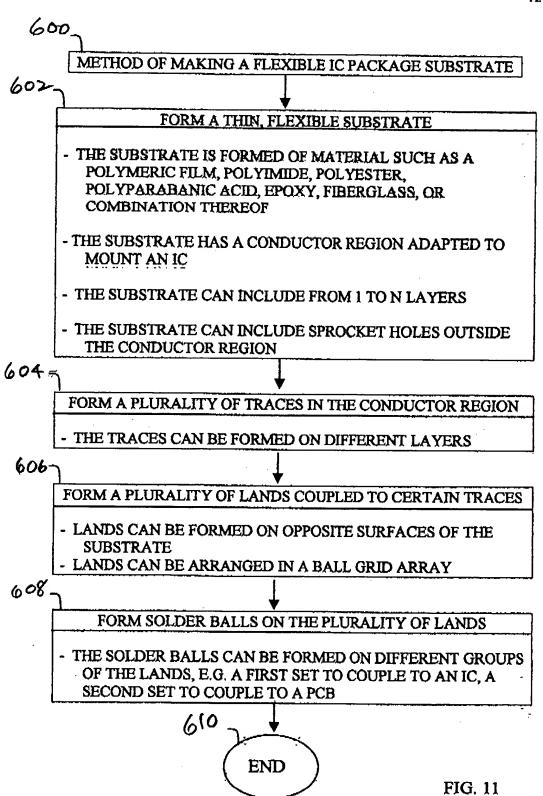


FIG. 10



METHOD OF MAKING AN ELECTRONIC ASSEMBLY

FORM A THIN, FLEXIBLE SUBSTRATE

- THE SUBSTRATE IS FORMED OF MATERIAL SUCH AS A POLYMERIC FILM, POLYIMIDE, POLYESTER, POLYPARABANIC ACID, EPOXY, FIBERGLASS, OR COMBINATION THEREOF

- THE SUBSTRATE HAS A CONDUCTOR REGION
- THE CONDUCTOR REGION INCLUDES A PLURALITY OF TRACES AND A PLURALITY OF LANDS COUPLED TO CERTAIN TRACES
- THE SUBSTRATE CAN INCLUDE FROM 1 TO N LAYERS, EACH COMPRISING A PLURALITY OF TRACES IN THE CONDUCTOR REGION
- THE LANDS CAN BE FORMED ON DIFFERENT LAYERS
- THE SUBSTRATE CAN COMPRISE SPROCKET HOLES OUTSIDE THE CONDUCTOR REGION

FORM SOLDER BALLS ON A FIRST SET OF THE LANDS

- THE FIRST SET OF LANDS CAN BE A BALL GRID ARRAY

COUPLE PADS OF AN IC TO CORRESPONDING ONES OF THE FIRST SET OF LANDS

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 MOUNT THE SUBSTRATE ON AN ADDITIONAL SUBSTRATE, E.G. A PCB

EMPLOY EITHER OR BOTH OF THE FOLLOWING:

- USE BGA BETWEEN SUBSTRATE AND PCB
 - FORM SOLDER BALLS ON A SECOND SET OF THE LANDS
 - COUPLE ONES OF THE SECOND SET OF LANDS TO CORRESPONDING TERMINALS ON THE PCB
- USE LEADS BETWEEN SUBSTRATE AND PCB
 - COUPLE LEADS, E.G. WIRES, BETWEEN CORRESPONDING ONES OF A THIRD SET OF LANDS AND ADDITIONAL TERMINALS OF THE PCB

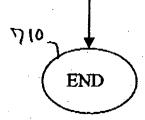


FIG. 12B